

Summary of June 2000 Stakeholder Meeting on the Consolidated Assessment and Listing Methodology

Overview

This document summarizes four stakeholder meetings hosted by the U.S. Environmental Protection Agency (EPA) on June 27 and 28, 2000, in Washington, D.C. at the Disabled American Veterans' Hall. EPA's Office of Water called the meetings in early June to obtain input from key water quality management stakeholders regarding the Assessment and Watershed Protection Division's (AWPD's) plans and initial ideas for developing a Consolidated Assessment and Listing Methodology (CALM) to identify impaired waters under Section 303(d) and prepare water quality assessment reports under Section 305(b) of the Clean Water Act.

General themes emerging from the meeting are identified first followed by separate summaries of each of the four meetings. The meetings were designed to obtain input from stakeholders as follows:

Meeting 1: Point Source Representatives
Meeting 2: Non-Governmental Organizations
Meeting 3: Nonpoint Source Representatives
Meeting 4: State Agency Representatives

At each meeting, each participant was given an opportunity to speak so that EPA could consider all points of view. This document therefore captures the diverse comments of individual participants and cannot be construed as representing a consensus of the participants or any group of them.

Participants' observations were recorded on flipcharts during the meetings. During and at the end of each meeting, participants were asked to review the flipcharts for accuracy and completeness. With minor changes to improve clarity for those who were not present, the detailed summaries of the separate meetings contain the original flipchart language. Participants' comments are not necessarily in the order they were offered at the meeting. They are organized in part to correspond to key questions identified during an introductory session at the outset of each meeting by Margarete Heber, Chief of the Monitoring Branch in AWPD. [A copy of the slides Ms. Heber used during her presentation is included at the end of this summary as [Appendix A](#) (PowerPoint format, 71kb).]

Agenda

Each meeting followed the same basic agenda:

1. Introduction of participants and review of meeting objectives;
2. Brief presentation on the Consolidated Assessment and Listing Methodology by Margarete Heber;

3. Facilitated discussion between participants and EPA staff, focusing on participants' views;
4. Wrap-up/review of next steps; and
5. Opportunity for comment by non-participant observers.

The meetings were facilitated by Ross & Associates Environmental Consulting, Ltd. Each participant was specifically invited to speak during the meeting and almost all did so. The meetings were facilitated to assure fair opportunity for all to speak, to help keep to the schedule, and to help stay on subject. However, most of the discussion was informal. From time to time, EPA staff answered questions or asked questions of the participants, but during most of the meeting, EPA representatives listened to the statements of the participants.

Participation

Participation was generally limited to representatives of the interests for which each meeting was organized (point source representatives at Meeting 1, non-governmental organization representatives at Meeting 2, etc.). Participants generally decided independently which of the four meetings to attend. In a few cases, participants in a meeting may have represented interests other than those targeted for that session. (For example, a representative of a public water supply system participated in Meeting 3.)

Participants were seated at a table, along with EPA representatives. Also participating in each meeting was Mr. Tom Morrissey, Co-Chair of the Monitoring Committee of the Association of State and Interstate Water Pollution Control Authorities (ASIWPCA). Each meeting was open to the public and several observers were present at all meetings. The number of participants from the targeted stakeholder group for each meeting varied considerably, due in part to the relatively short notice for the meeting.

Meeting 1: 25 point source representatives;
Meeting 2: 4 non-governmental organization representatives;
Meeting 3: 9 nonpoint source representatives; and
Meeting 4: 21 state agency representatives.

Over the course of the two days of meetings, eighty-two individuals attended, including EPA staff, observers, and meeting facilitators. Attendees are listed in Appendix B of this document.

CALM Follow-up Schedule

EPA's schedule for proceeding on the CALM initiative has changed since the June 27-28 meetings. Please check the EPA website for the latest information.

Themes Emerging from the Four Meetings

General Reaction to EPA's Plans to Develop Guidance on a Consolidated Approach

- Most participants **avored** the concept of developing a consolidated approach.
- Several participants noted that Sections 303(d) and 305(b) of the Act have **different purposes** that may require different approaches. For example, Section 303(d) listing has regulatory implications whereas Section 305(b) reports are a snapshot of water quality conditions. Section 303(d) requires more rigorous determinations. Some participants, however, express concern about differences in monitoring approaches for 303(d) and 305(b).
- Several participants noted that EPA needs to "raise the bar" on the **quality of data** used, especially in the Section 303(d) listing process.
- Several participants suggested that EPA's guidance **should not be unduly prescriptive** but should allow for a variety of good State methodologies. Some participants suggested that the guidance should set forth questions for States to answer about their assessment and listing processes and provide examples of acceptable and outstanding responses.
- Some participants expressed support for consolidating 303(d) lists and 305(b) reports on a **four-year cycle**.
- Some participants said that EPA should take steps to ensure greater **consistency** among States and between the CWA and Safe Drinking Water Act both in conducting assessments and making attainment determinations; others said that consistency within each State is paramount. Some State participants expressed concern about inconsistency among EPA regional offices.

Determining Attainment/Nonattainment

- Participants **supported** EPA's plan to provide **guidance** on how to define/determine attainment and impairment.
- Many participants said EPA's guidance should **allow for State or regional variation** in methods for determining attainment, but that EPA should be more specific than it is currently about what types of data are appropriate for making any attainment/impairment determination.
- While participants did not agree on how the issues should be addressed, the areas most often suggested as **needing guidance** were:
 - The **quantity and quality of data** needed to make a determination;
 - **Sampling frequency and the number of exceedances** that would constitute nonattainment;
 - How to incorporate **multiple data sets**;
 - How to handle **historical/aged data**;
 - Data requirements and process for **303(d) delisting**;
 - Proper uses of **evaluated data** generally;
 - How/whether to use **fish advisories** (especially under 303(d));
 - When/whether to use **inferences** from land use data or reference similar water bodies;
 - When/whether to use **biological data** to determine attainment status;
 - Use of **effluent data** from sources to predict attainment/nonattainment;
 - Interpretation, calibration and validation of **water quality models**;
 - Assessing and determining attainment status of **interstate water bodies**;

- Dealing with **uncertainty**;
 - Defining "**pollution**" and "**pollutant**" for purposes of 303(d) listing decisions; and
 - The use of "**independent application**" of various water quality parameters to determine attainment status.
- Some participants said that EPA should issue guidance on determining attainment of designated uses, **narrative criteria**, wetlands criteria, aquatic life criteria, and/or antidegradation provisions; others said that water quality standards which are unclear or non-numeric need further clarification through rulemaking (e.g., establishment of "translator" provisions, revision, or replacement) before they can serve as a basis for attainment determinations. Some participants said that States need flexibility to interpret their non-numeric standards and that EPA should not over-emphasize numeric criteria.
- Most participants said that States should establish quality assurance/quality control parameters that could be followed by stakeholders willing to perform monitoring and that any data, including **stakeholder data**, should be used without bias by States in making attainment determinations, as long as the data are collected in accord with the prescribed parameters.
- Many participants noted that it is important for State and EPA attainment determinations to be as **transparent to the public** as possible and to be open about data limitations; several suggested that a consensus State/stakeholder process should be used to develop assessment and attainment determination protocols and to decide how 303(d) lists should be organized/prioritized. Some participants suggested that EPA should define "transparency" in its guidance and that the guidance should establish better ways of communicating 303(d) listing decisions and their significance for sources, stakeholders and the public.
- Several participants noted that States need more and better **expertise and expert assistance** in the proper interpretation of models and the conduct and uses of statistical analyses. Some suggested that EPA and State biologists should engage in more direct communication to enhance consistency and provide for technology transfer.
- Some participants said that **listing and delisting** decisions should be based on the same **degree of scientific rigor**, while others suggested that some questionable data indicating impairment should be considered determinative until better data is collected.

Comprehensive Assessments

- There was **general support** for the concept of assuring that all waters are monitored, but there was considerable concern about whether States have (or would ever have) the **capacity** to monitor all waters.
- Some participants suggested that, through the CALM process, EPA can **encourage more monitoring** and provide incentives to States to perform more monitoring.
- Many participants discussed the use of **probabilistic monitoring** approaches (the necessity to use such approaches given resource limitations, the need for guidance

on their use, and concern about whether they are appropriate for use in making attainment determinations especially for 303(d) purposes). Many State representatives supported use of probabilistic approaches for some purposes.

- Many participants expressed concern about the **definition/designation of water quality segments** and suggested that guidance is needed on the amount and quality of data required for geo-spatial determinations and what constitutes "representative" data for making water segment decisions.
- Several participants urged EPA not to jeopardize the **5-year rotating basin** approach used in a number of States.
- Several participants, including some point source representatives, expressed an interest in **point sources' conducting more instream monitoring** to supplement State efforts. Some others were concerned about requiring permittees to perform instream monitoring because the costs and burdens could be significant. Several participants agreed that if a point source has demonstrated stable compliance through effluent monitoring, effluent testing requirements could be reduced in exchange for instream monitoring.
- Some participants suggested that States should establish **Monitoring Councils** to assure proper coordination among the various agencies and entities that conduct monitoring. Some State participants expressed concern about their ability to coordinate effectively with the large number of interested/affected stakeholders.

For more specific information on views expressed by participants, please read on to the separate meeting note, below.

Meeting 1 Notes:

Point Source Representatives

General Comments

- Point source representatives are interested in a consolidated approach; appreciate the opportunity to provide input to CALM process.
- Supportive of CALM because it provides a mechanism to use locally collected data.
- There are differences in regulatory outcomes/consequences that flow from Section 305 and 303 actions; this needs to be recognized.
- EPA should raise the bar on quality of data used in Section 303(d) de-listing.
- Don't let current lack of data influence how to develop guidance (but, approach needs to be do-able by States). Need to balance certainty, resource and information needs.
- Approach should be less prescriptive for States; emphasize watershed approach (rotating basins).
- Guidance should cover how to conduct data review, with trigger points for Section 303(d) listing.
- States should give more emphasis and place greater importance on Section 305(b) reports to the public.

- We are concerned about timing. Will the CALM initiative lag behind the TMDL process?
- We are concerned about adequacy of resources (e.g., to run water quality models).
- Some States have good listing methodologies: EPA should not prescribe one way but should use State methodologies as templates.
- EPA's CALM schedule does not accommodate State rule-making process requirements.

Attainment Decisions

General Comments

- We need certainty, clear direction re: content, defensible data and how to incorporate multiple data sets.
- The process needs "integrity". Don't assume waters previously listed under Section 303(d) should continue to be listed under the new CALM methodology unless impairment is shown under the new methodology.
- States should develop an "I don't know" list of waters for which we don't have enough information to list under Section 303(d); make these waters a priority for additional monitoring.
- When States identify causes and sources of nonattainment, too much is assumed. This information has not been based on field data; "not all data is equal".

Is a water quality standard attained/not attained?

- Guidance needs to define impairment (is it present day, worst case scenario, etc.?).
- We need translators for some water quality standards (e.g., making narrative criteria numeric for attainment decisions).
- We need to know what action should be taken by a State if there is a violation of an aquatic life criterion (e.g., list under 303(d), report under 305(b), track elsewhere?).
- Concern about how fish advisories are considered in 303(d) listing; need to address this.
- Will guidance provide *de minimis* exceptions for Section 303(d) listing? (For example, for legacy problems/ atmospheric deposition)? (*Note: EPA staff indicated that this would probably be inappropriate but that actions to follow up on the listing could be tailored.*)
- CALM must identify specifically how to determine when a water body is non-attainment (e.g., what frequency of sampling is needed, what number of exceedances?).

How is existing and available information considered?

- Need to be clear about what "consider" means in context of 303(d).

- Non-regulatory factors should not be considered in assessments (e.g., ERL/ERM and sediments).
- Guidance should clarify how and when to use different categories of data (e.g., older data, inferences from land use info, reference to similar water bodies).
- Guidance is needed for waters that have non-traditional types of impairment (e.g., habitat problems); these should be addressed in a category separate from waters exceeding numeric pollutant criteria.
- Guidance should provide for considering effluent data from point sources in assessments.
- Guidance should emphasize monitored data, not rely too heavily on evaluated/modeled data.
- Modeling should not be a basis for Section 303(d) listing; impairments are generally outside range of validated/calibrated models.
- We are concerned about using biological data for Section 303(d) listing because there is no cause-and-effect relationship to enable the impairment to be resolved; TMDLs cannot be developed for biological impairments.
- To use biological data in making attainment determinations, there has to be a specific promulgated standard first.

How does a State define quality of data?

- Guidance should set time limits on use of different types of data.
- Guidance should address the need for rigor in scientific data.
- Guidance should provide QAPP (quality assurance plans) for dischargers, others to follow in collecting data.
- If data are not collected with quality assurance/quality control (QA/QC) in accordance with guidance, it should be discarded.

What data interpretation methods does a State use?

- It is important to assure transparency of impairment/attainment decisions so public can understand.
- Use the same process to decide impairment as to decide attainment.
- EPA should provide examples to States on data interpretation.
- Guidance should encourage States to reach out to stakeholders, including point sources to get the advantage of stakeholders' input on methods for defining impairment, conducting assessments.
- Guidance is needed on use of RF-3 and designation of segments (too many segments, not enough data coverage).
- States need qualified scientists to do statistical tests, interpret data and models.
- States should not rely on off-the-shelf models that use limited data.
- Guidance is needed re: interpreting/calibrating/validating models.

How does a state integrate multiple types of data in water quality assessments?

- Guidance should address the "pollutant" vs. "pollution" issue: how to integrate water quality data and assessments.
- We are concerned about EPA's policy of "independent application" of different types of water quality standards' provisions in making attainment determinations.

Comprehensive Assessment

How does the State ensure comprehensive monitoring coverage?

- Guidance needed on getting representative samples.
- States need sufficient data to assess water quality from both temporal and spatial perspectives.
- Requiring "comprehensive assessments" may raise concern that point sources will be required to increase their in stream monitoring; concerned about potential burdens.
- Would it be possible to allow a POTW that currently conducts extensive effluent water quality monitoring to switch to ambient water quality monitoring, assuming its effluent monitoring results show stable, compliant trend? Are States willing to 'back off', at least to some extent, on effluent monitoring by point sources to get more ambient data?

How does a State conduct ambient water quality monitoring?

- States should have flexibility to use alternative statistical approaches.
- We need guidance re: definition of water body segments.
- We are concerned about the frequency of data collection.
- There is a spatial bias to monitor near certain types of sources in current distribution of monitoring stations.

How does a state integrate additional data?

- We support use of locally collected data.
- We need guidance re: linking data from upstream/downstream reaches.
- Guidance is needed re: working across jurisdictions.

Data Management and Presentation

- It is important to educate public about what can be done, what to expect.
- We are concerned about the cost of building and maintaining comprehensive monitoring system(s).

Other

- We need guidance on analyzing impacts, social and economic cost/benefits under Section 305(b).

- We need specific guidance re: information required to delist waters under Section 303(d).
- The same test and rigor should be used to list/delist.
- The delisting process needs public input.
- We are concerned about the Section 305(b) "partially supporting" waters category; concern that this category will trigger Section 303(d) listing.
- Concern about how to handle "other" categories of impairment (e.g., legacy problems).
- Water quality standards need to be clear, well-understood. They should be numeric and measurable, not narrative.
- We need a document that gives technical basis for assessment of relative contributions of different pollutants.

Meeting 2 Notes:

Non-governmental Organization Representatives

General Comments

- Guidance should tell states how to monitor unmonitored waters and should clarify what states need to do. (Note: guidance is not binding on States.)
- CALM guidance should anticipate that biological and sediment criteria will be available shortly.

Attainment Decisions

Is standard attained/not attained?

- Guidance is needed on interpreting narrative criteria (e.g., to protect wetlands and aquatic life, anti-degradation) and determining what constitutes impairment.
- What value does probabilistic monitoring/sampling have in determining attainment?
- We need guidance re: what constitutes attainment of water quality standards (especially in light of limited data sets).
- Some evaluated data are more reliable than others and can show serious indication of impairment.
- Section 303(d) listing puts waters in spotlight both for restoring water quality and for revising water quality standards.
- How do you know if you have the data to make the right decision about revising water quality standards (e.g, to develop a site-specific water quality criteria)?
- As waters are identified as impaired, what is the right mix of actions to get the right criteria in place?
- Who is responsible for developing translators? Who will pay?

How is existing and available information considered?

- EPA should revisit its 1991 TMDL guidance that identified 19 categories of information.
- Narrative biological criteria must be a basis for determining attainment and listing under Section 303(d).
- Evaluated data should be considered and may be sufficient for listing a water body under Section 303(d).
- Older/aged data should be used until new data are available.
- If there is conflicting data (showing attainment/nonattainment), must be conservative; use data that indicates a problem in order to be adequately protective.
- Probabilistic monitoring and fish advisories-do you list under 303(d)? *EPA staff indicated that where sufficient data supports these findings, yes.*
- If a State puts a water on its Section 319 nonpoint sources list, possibly to get funding to restore it, but does not list that water under Section 303(d), there is a disconnect that must be addressed.

How does a State define quality of data?

- States should report about the quality of data that are used, whatever the quality is. The public has a right to know this.

What data interpretation methods does a State use?

- Attainment decisions need to be based on consistent interpretations (e.g., if 10% of samples exceed limit, water is impaired).

How does a State integrate multiple types of data in water quality assessments?

- The "independent application" approach should be used for Section 305(b), perhaps not for 303(d).

Comprehensive Assessment

How does the State ensure comprehensive monitoring coverage?

- Guidance re: requiring permittees to monitor ambient conditions would be useful.
- Environmental groups will support additional funding for water quality monitoring.

How does a State conduct ambient water quality monitoring?

- What size river segment is suitable for listing on the basis of evaluated data?

How does a State integrate additional data?

- State bias against using citizen-collected monitoring data must be overcome (many citizens follow State QA/QC procedures). NOTE: State monitoring councils may help.
- If a point source can demonstrate consistent compliance through effluent monitoring, we would support their undertaking ambient monitoring in exchange for less frequent effluent monitoring.

Data Management and Presentation

- Raw data used in developing a State's Section 303(d) list should be published with the list.
- States should clearly identify water body segments (geo-reference).
- States should be open re: what is on table, what we know, why we are/are not using these data; should have transparency in decision-making.
- Must identify waters States have not monitored.
- States should do a better job identifying what percentage of waters have/lack water quality data.

Other

- Could a single TMDL be developed to handle all waters in a state that are similarly impaired for the same designated use (e.g., air deposition of mercury causing fish advisories)?

Meeting 3 Notes:

Nonpoint Source Representatives

General Comments

- The nonpoint source community is interested in working on this effort.
- Currently, the 303(d) list of impaired waters is/should be rigorous and the 305(b) report is not as rigorous/quantitative in assessment. How will these lists be meshed?
- The nonpoint source community is nervous about getting on the Section 303(d) list because of the regulatory consequences (especially given that a water can be listed based on very little data).
- How will EPA handle outcomes of a CALM guidance that contradict current EPA policy, such as independent application?
- We appreciate that, through CALM, EPA is trying to raise the bar for the quality of data needed to list under Section 303(d).
- We like the idea of combining the 303(d) list and 305(b) report on a four-year cycle.

Attainment Decisions

Is standard attained/not?

- We need guidance on the amount of data that should be used to make decisions. (The "I don't know" list suggestion from the point source meeting is a good one.)
- Independent application is appropriate for 305(b), not 303(d) list.
- How should States make attainment decisions with limited data? Is one guilty until proven innocent or the reverse?
- Need to better define how to get on and off 303(d) list.

How is existing and available information considered?

- There should be a set of standard data that EPA requires/ accepts, with allowance for regional differences.
- How are ESA occurrences (habitat/range) used in CALM process? Are water bodies involved in ESA listings prioritized?
- Should aged data ever be used?
- Substances with MCLs are not always considered. This is a significant gap in the water program.
- States should use data from other sources and get over their bias against interest groups' data, as long as it is QA/QC'd. States should look at current information from, for example, land grant universities
- Biological information should be used to define designated uses and inform the standards process; look forward to seeing "Stressor identification evaluation" guidance (due out by end of 2000).
- Regarding monitored versus evaluated data, need to be clear on whether/how evaluated data should be used in attainment decisions?

How does state define quality of data?

- The regulated and regulators should come to agreement on what data are acceptable in each state.
- Better data will not necessarily mean fewer listings, although some people do not understand this.
- We need definition of credible data: scientifically valid biological, chemical, physical data collected with QA/QC procedures (includes historical data).
- EPA is concerned about defining "credible data" in such a way that it excludes otherwise useful data; see a need to be more flexible.
- Biological issues are important; need better bench-marking and scientific expertise on this; QA/QC procedures would help.
- Concern about 303(d) list being inaccurate; it must be scientifically valid.

What data interpretation methods does a state use?

- How do/should we assess non-monitored waters?
- How do/should we use data in statistical analyses?
- How do/should we use models to determine attainment?

- How do we distinguish/allocate impairments from flow or other stressor (physical, chemical)?
- How do/should States assess trends with limited data?

Comprehensive Assessment

- How can monitoring be designed to capture nuances in water bodies? (Need to use models to help with this.)
- How would we make sure the "I don't know list" is followed up on?
- Safe Drinking Water Act and Clean Water Act need to be more efficient/better integrated in doing evaluations.

Data Management and Presentation

- Use database approach to analyses: start general and drill down to specifics.
- The challenge is to communicate the issues to the non-expert public and also communicate what they (the public, including nonpoint sources) are supposed to do.
- We encourage EPA/States to make documented, transparent decisions.
- Guidance should define adequate "transparency" (better ways of communicating that the lists are out and what they mean).
- Proposed 303(d) list organization in New Jersey allows nuances to come through without putting all water bodies on 303(d) list. (This came out of a consensus process.) Possibly could be used as a model in CALM. Different categories in list:
 - a. Have proof of impairment.
 - b. Reason to suspect impairment, but not enough proof.
 - c. Data contradicted intuition.
 - d. Impairment, but not sure why.
 - e. TMDL developed, but not fully implemented.

Other

- It is important to provide for dialogue between nonpoint sources and regulators without worry/threat of regulation. (Need to rely on more voluntary measures.)
- Voluntary BMPs can be used to improve water quality; with more money/support, many nonpoint sources will implement BMPs.
- Technology-based standards and guidance need to be updated and improved.
- Need to ensure that non-impaired waters stay clean (anti-degradation).

Water Quality Standards:

- Standards should be better defined to reflect designated uses (e.g., is it fair to use drinking water standards for aquatic habitat?)
- States should revisit water quality standards to make them more or less specific as appropriate.
- Standards should be more consistent across States.

- How will the CALM affect the triennial standards review? *[EPA staff indicated that as data come in, focused revisions to standards will occur and will be prioritized. Designated uses are the highest priority.]*
- Designated uses are important to improve, expand upon.

TMDLs:

- Section 303(d) list should go through second public comment period at the regional level.
- We should use 303(d)/305(b) processes to prioritize TMDLs.

Meeting 4 Notes:
State Agency Representatives

NOTE: Attached in Appendix C are:

1. *A written summary of their comments prepared by participants from the North Carolina Division of Water Quality; and*
2. *Issue papers submitted by representatives of the New Jersey Department of Environmental Protection, who were unable to attend the meeting.*

General

- We support the concept of consolidating 303(d) and 305(b) assessments.
- Consolidation makes sense from a workload standpoint; however, 303/305 are different tools/programs that maybe should not be merged. The 305(b) assessment is a snapshot of water quality, whereas 303(d) has regulatory implications and warrants more rigorous assessments. Section 303(d) and 305(b) need different sampling designs to answer different questions.
- Cross-state consistency is not paramount; need to be more concerned with internal consistency in each State.
- It will be a challenge to make interstate assessments consistent; the current time line may be inadequate to achieve desired consistency.
- We want consistent methodology, but need flexibility in criteria (e.g., DO).
- Consistent methodology across states help members of the public.
- We are concerned about inconsistency in reviews by EPA regional offices.
- Be cautious about how 303(d) and 305(b) are consolidated (lest the 303(d) list turns into list of impaired waters vs. waters requiring/needing TMDLs). Section 303(d) should not capture everything, but instead should be viewed as a subset of 305(b) "not fully supporting" waters.
- Section 305(b) more accurately reflects what we know about water quality.
- Use 305(b) assessment guidance as the baseline for assessments; rely on State/EPA 305(b) consistency workgroup work, too.
- Provide for both consistency and flexibility; make guidelines functional, not prescriptive.

- Re: guidance design, list questions for states to respond to, provide examples to set up boundaries, but allow states to give different answers.
- Statutory time lines will drive what we do.
- Timing concern: staff engaged in various related processes; there may be inconsistencies with other criteria/info (e.g., nutrients, SIE).
- Need to get input into CALM from other States, Tribes, River Basin Authorities.
- Need to involve EPA regional coordinators in CALM process.
- Need to involve other federal agencies in the CALM process.
- EPA regional staff should interact with state biologists to increase consistency at staff level through technology transfer.
- What we do creates feedback "do-loop": what happens in monitoring may affect water quality standards (and other programs).
- CALM may cause water quality criteria to be called into question in some states.

Attainment Decisions

Is standard attained/not?

- We agree with the need for transparent decision-making regarding impairments and for each use assessment type, but we are concerned about EPA micro-management of how decisions made, how much info used); ultimately, this should be at states' discretion.
- Suggestion: try to resolve guidance on attainment before addressing comprehensive assessment (as a first step, ask states to write up their current approaches).
- What is EPA's definition of "impairment"?
 - water quality standards-can violate x times without impairing use?
 - does D.O. due to salt wedges qualify as an impairment?
- What is the definition of "standards" for purposes of making attainment decisions?
 - designated beneficial uses;
 - anti-degradation provisions; and
 - criteria (numeric and narrative)?
- Need guidance re: differentiation between assessments and attainment decisions.
- EPA should extend maximum flexibility to states in interpreting narrative (and some numeric) standards; don't place extreme emphasis on numeric alone.
- We are concerned about defining impairment due to pathogens. Pathogens are indicators of sanitary conditions (Part II).
- Some States use monitoring data for 305(b) to determine use support and then use this information to develop 303(d) list. Would like to know if this a common approach across States?
- Many States rely on inferences to assess level of use support but this information cannot answer many questions (e.g., extent of impairment).
- Levels of rigor for listing and delisting should be equal; often, delisting has been subject to more intense scrutiny.

How is existing and available information considered?

- What qualifies as "existing and readily available info"? (Please provide clear examples.)
- Benthic macroinvertebrate information may not point to specific pollutant of concern.
- Don't expect states to agree on several issues (e.g., use of fish advisories). This can be dealt with via transparency.
- We need to encourage collection of habitat data.

How does state define quality of data?

- What "rules" will EPA use to judge quality? These should be written down in advance.
- Need to consider QA in whether data are used, but it may be tough to determine quality in some cases.
- Data quality, not the source of the data, should determine whether/how specific data are used in assessments.

What data interpretation methods does a state use?

- If EPA doesn't like the state's assessment methodology, will it reject the state's 303(d) list and promulgate its own list instead?
- We need guidance re: dealing with uncertainty.
- Oklahoma uses assessment support protocols (and we hope CALM is consistent with our approach).
- We are concerned about guidelines for listing and reporting prescribing different methods.
- "Pollution vs. pollutant": need guidance about assessments and the level of proof needed to differentiate "pollution" from "pollutant" for Section 303(d) listing decision purposes.
- Spatial distribution/applicability: how far can you extrapolate? What is considered representative?
 - When listing under Section 303(d), may be only guessing at the extent of impairment, but this has an impact on the size/geographic extent of the TMDL.

How does a state integrate multiple types of data in water quality assessments?

- Don't base attainment decisions strictly on numeric criteria; take a "weight of evidence" approach, consider best professional judgement.
- Clarify what is meant by "independent application" in the context of water quality standards.

Comprehensive Assessment

How does the state ensure comprehensive monitoring coverage?

- Resources for more, better monitoring are needed (at our agencies and elsewhere).
- CALM provides an opportunity for EPA to encourage monitoring and develop incentives to improve monitoring (e.g., by offering greater flexibility to more robust sampling programs).
- For states with extensive inaccessible wilderness areas, what does 100% monitored mean? [How can we use representativeness, extrapolation, probability-based approaches?]
- We need an answer as to what resolution the entire state must be monitored?
- 5 yr Basin-wide cycle offers a comprehensive look at basin and provides for public involvement; don't jeopardize this.
- It is cost-prohibitive to monitor every stream.
- Depending on design, rotating basin approaches could reflect condition of monitored waters, not condition of all waters of the state.

How does a state conduct ambient water quality monitoring?

- We need to show where are stream miles/types of activities and sources: need more targeted design.
- Guidance is especially needed on monitoring/assessing lakes and reservoirs.
- Section 305(b) guidelines are not designed for probabilistic monitoring. CALM should address how to use probabilistic sampling design.

How does a state integrate additional data?

- Monitoring councils that include the various agencies/stakeholders involved with monitoring allow state to reach out to stakeholders, may produce more and better data.
- Many states are already working with partners to integrate data but it takes a lot of time.

Data Management and Presentation

- We all struggle with how the state can allow for stakeholder input. Many coordination needs, many stakeholders. How can we do this best?
- We are concerned that States can never provide comprehensive monitoring coverage; need to tell the public this.
- EPA should not promote including all raw data in 303(d) lists; rather, provide a summary and make raw data available on request (contrary to the NGO comment).
- Need to avoid negative spin on water quality assessment documents (e.g., not an "Atlas of Polluted Waters"): positive presentation is helpful in keeping things moving forward.

- Interested in scale of WATERS database and flexibility re: how land uses can be combined; relieved that data can be entered into system at whatever scale is available and can be mapped at a finer level.
- EPA should communicate information at whatever scale states use (or, at a minimum, link to state website (UWA)); when EPA "rolls up" finer scale data to a national map, water quality often seems worse than is the case (especially for those states collecting data at a higher resolution).
- Interstate basins need to be addressed consistently in how data are communicated and what level of information/detail is provided to the public.

Other

- Section 303(d) list is a TMDL to-do list; concern that statute would override not developing TMDLs for parts 2, 3, and 4.
- De-listing should be iterative and ongoing.
- 'Sources and causes' information will come together in TMDL development (not through 305(b)).
- The iterative process to restoring water quality is most cost-effective: (1) determine limiting factors; (2) apply BMPs in sub-watersheds; (3) go back and monitor.
- There is a significant amount of money in proposed budget for 106 and 319: how should that money be spent?